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(57) Abstract

A new class of heterocyclic metallocenes, a catalytic system containing them and a process for polymerizing addition polymerizable monomers using said catalytic system are disclosed; the heterocyclic metallocenes correspond to the formula (I): $Y_jR''_iZ_{jj}MeQ_kP_l$ wherein Y is a coordinating group containing a six π electron central radical directly coordinating Me, to which are associated one or more radicals containing at least one non–carbon atom selected from B, N, O, Al, Si, P, S, Ga, Ge, As, Se, In, Sn, Sb and Te; R'' is a divalent bridge between the Y and Z groups; Z is a coordinating group, optionally being equal to Y; Me is a transition metal; Q is halogen or hydrocarbon substituents; P is a counterion; i is 0 or 1; j is 1–3; jj is 0–2; k is 1–3; and l is 0–2.

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